

ARTIFICIAL SYSTEM FOR VISION AND THE LIKEABSTRACT

An artificial system for vision and the like in which a camera views an object and creates signals corresponding thereto which are conveyed to the nervous system of the subject and produce corresponding sensations such as phosphenes in the subject's nervous system, in which the effectiveness of the system in conveying intelligence to the subject is enhanced by converting light-corresponding and dark-corresponding portions of the camera-produced signals into dark-corresponding and light-corresponding portions of the actual sensation-producing signal, and producing a comparatively bright signal of the edge of the object being viewed, the signals applied to the subject's nervous system being applied to different locations thereon in the form of a plurality of pulses per location which are produced from the camera signal by a multiplexer which applies the plurality of pulses sequentially to particular locations, one such particular location at a time, providing the subject with a rangefinder which causes the sensation produced in the subject's nervous system to periodically vary, as in brightness, at a rate corresponding to the distance that the rangefinder senses to the object being viewed, thereby conveying distance-intelligence to said subject while at the same time conveying to said subject a visual representation of the object in question, and providing between the camera and the subject's nervous system an adjustable signal amplifier to produce a

controllable "zoom" effect. Observation, control and improvement of the system is achieved by providing the subject with means such a laser pointer so that the supervisor can determine at any given moment where the subject is "looking", providing a display which enables the supervisor to simultaneously see what the camera sees at any particular moment and what sensations the subject experiences, and determining the relative locations of the sensations in the nervous system of a particular subject by producing individual sensations in a particular sequence and spatially locating the sensations in a particular fashion with the assistance of the subject.

a:\dob-1.abs